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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/536,460	03/28/2000	Joseph Hayden	SGT-34-PI	5114

23599 7590 09/09/2003

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EXAMINER
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SANGHAVI, HEMANG

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 09/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application N .

Applicant(s)

09/536,460

HAYDEN ET AL.

Examiner

Art Unit

Hemang Sanghavi

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5, 15-18 and 30-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2, 15-18 and 30-33 is/are allowed.
- 6) ☒ Claim(s) 1, 3-5 and 34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

In response to the applicant's amendment received on May 29, 2003, all requested changes to the claims have been entered.

Applicant's arguments with respect to claim 1 have been considered but are deemed to be moot in view of the new grounds of rejections. The previously applied rejection of claims 1 and 3-5 is withdrawn. The following rejections are now applied as the result of further search. This action is not made final.

### ***Allowable Subject Matter***

Claims 2, 15-18, and 30-33 are allowed over the prior art of record. The prior art fails to disclose or suggest the claimed athermal optical element comprising a surface of crystalline, cubic material with a surface figure of  $<200$  nm and material having property of  $dn/dT = -n\alpha$ .

Nor does the prior art disclose or suggest an athermal, optical composite material comprising two layers of different compositions, wherein the total optical pathlength across the two layers is essentially independent of temperature. Note, Shirasaki reference require at least three layers to achieve temperature insensitivity.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3-5, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hares et al (US 4,190,451).

Hares et al discloses an optical element (photochromic glass) comprising a silver chloride. See Abstract. The optical element is an athermal since the glass has property of being independent to temperature.

Hares et al fails to disclose a surface figure of less than 200 nm for the silver chloride.

However, as well known in the art that actual threshold and long lifetime of crystalline structure such as silver chloride or cesium bromide can greatly depend on the surface preparation. Surface figure is a measurement of the deviation from an ideal surface in terms of waves, peak to valley. The materials disclosed in Hares et al are usually polished and provided with desired thickness to perform photochromic application. Also, specification lacks criticality as to the surface figure of <200 nm and does not solve any stated problem.

From collective well known techniques, the ordinary artisan would have found it desired to provide optimum surface figure, i.e. less than 200 nm in the Hares et al reference for the purpose of advantageously providing an efficient long life glass.

As to claims 3-5, providing a coating or attaching the glass to substrate are well known techniques in order to provide desired application and use of the glass. Also note that the glass of Hares et al is used in the field of ophthalmic lenses, both as prescription lenses and as non-prescription sunglasses. Such use of the glass requires coating or attaching the glass to substrate. From available well-known techniques, the ordinary artisan would have found it to be obvious at the time of the invention to provide a coating to the glass or attached the glass to a substrate for the purpose of using such glass in the field of ophthalmic lenses.

Claim 34 is further rejected under 35 U.S.C. 103(a) as being unpatentable over Downing (US 5,914,807).

Downing discloses an optical element including a cesium bromide (see lines 1-3 of column 10).

Downing fails to disclose a surface figure of <200 nm for the cesium bromide.

However, as well known in the art that actual threshold and long lifetime of crystalline structure such as silver chloride or cesium bromide can greatly depend on the surface preparation. Surface figure is a measurement of the deviation from an ideal surface in terms of waves, peak to valley. The materials disclosed in Downing are usually polished and provided with desired thickness to use in the laser. Also,

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specification lacks criticality as to the surface figure of <200 nm and does not solve any stated problem.

From collective well known techniques, the ordinary artisan would have found it desired to provide optimum surface figure, i.e. less than 200 nm in the Downing reference for the purpose of advantageously providing an efficient long life laser.

Since the Downing reference used in the above rejection was submitted with the prior Office action, no copy thereof is provided with this Office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hemang Sanghavi whose telephone number is 703-305-3484. The examiner can normally be reached on Monday-Thursday (8:30 AM-6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 703-308-4819. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Hemang Sanghavi  
Primary Examiner  
Art Unit 2874

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